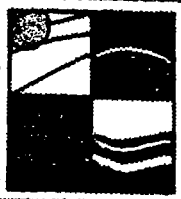


MI0575-09

Report on Phase II
Hydrogeologic Investigation
Chem-Met Services
Section 3, Brownstown Township
Wayne County, Michigan
July 22, 1982

KECK consulting
services, inc.



geology - hydrology - geophysics
meteorology - soil science

US EPA RECORDS CENTER REGION 5



409382

Report on Phase II
Hydrogeologic Investigation
Chem-Met Services
Section 3, Brownstown Township
Wayne County, Michigan
July 22, 1982

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Exhibits
(all contained in back pocket)

1. Site Location Map
2. Ground- and Surface-Water Monitor Station Locations
3. Potentiometric Surface Contour Map

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- A. Geologist's Logs
- B. Elevation Data
- C. Gamma-Ray Logs (contained in back pocket)
- D. Results of Hydraulic Conductivity Testing
- E. Water Quality Data
- F. Methodology for Hydraulic Conductivity Testing

INTRODUCTION

Chem-Met Services of Wyandotte, Michigan has retained Keck Consulting Services, Inc. (KCS) of Williamston, Michigan to conduct a Phase II hydrogeologic investigation at their hazardous waste treatment facility located at 18550 Allen Road in Wyandotte, SE 1/4, Section 3, Brownstown Township, T.4S., R.10E., Wayne County, Michigan.

This phase is a continuation of a preliminary investigation conducted by this office in 1981. The results of that investigation were presented in a report titled "Preliminary Hydrogeologic Investigation, Chem-Met Services" which was dated July 22, 1981 and is appended hereto by reference. The present phase of the study was designed to furnish additional data required as part of Chem-Met's application under Michigan's Act 64, P.A. 1979.

Among the parameters to be defined by this investigation were the permeabilities of soils beneath the site, the rate and direction of ground-water flow and the qualities of ground and surface waters beneath and near the site.

SCOPE OF SERVICES

Field Investigation

The field investigation of this phase comprised several parts. As the preliminary investigation indicated the absence of any potential aquifers in the glacial drift, questions regarding

ground-water conditions were assumed to pertain the water contained in the bedrock lying immediately beneath the drift. Existing data indicated that this bedrock was carbonate in composition, either the Detroit River Dolomite or the Dundee Limestone.

The first aspect of the field investigation was the installation of three monitor wells in the bedrock at the locations shown in Exhibit B. These locations were selected based on an assumed eastward ground-water flow direction, yielding one upgradient and two downgradient wells.

A primary concern in the installation of these wells was to ensure that water samples obtained from them were reflective of actual ground-water quality, unaffected by possible extraneous components from the well materials or drilling equipment. To accomplish this end, all drilling equipment, tools, and well materials were thoroughly cleaned before arrival on site and between wells. Cleaning was done with high-pressure, high temperature steam, first with a weak detergent solution and then with clear city water.

The soil borings were made with a CME-55 drill rig and 6 5/8-inch O.D. hollow-stem augers. Grab samples were collected and described at each change in lithology as indicated by the Geologist's Logs (Appendix A). Additionally, split-spoon samples were obtained from each boring as shown on the logs;

these samples were taken with thin-walled aluminum liner tubes in the split spoon to permit laboratory permeability testing of relatively undisturbed samples.

The borings were drilled a minimum of four feet into the bedrock. A monitor well was then installed to the total depth of each boring. The wells were constructed of 2-inch, flush-coupled galvanized casing and #930, 6- or 7-slot stainless steel well screens as noted on the logs. Each screen was sand packed with washed Ottawa sand.

A second important concern in the design of this study was to ensure that the integrity of the clay soils beneath the site was not compromised by the installation of the soil borings/monitor wells. This objective was met by pressure grouting each well with a bentonite/neat cement grout mixed according to USEPA recommendations. Grout was placed from the top of the sand pack to ground level in each well. After allowing the grout to cure, each well was developed by the air-lift method to maximize yields and permit obtaining clear, representative ground-water samples. To further confirm the presence of clay soils beneath the site, a gamma-ray log was run in each well. Natural gamma radiation is emitted by clay minerals containing potassium and is a good indicator of relative clay contents.

The measurements were made with a Keck GR-77 meter and scintillometer probe; the probe was rinsed with a warm detergent-acetone-water solution and the cable was steam cleaned between wells. The logs so obtained are presented in Appendix C along with graphic representations of the geologist's logs for comparison.

Static water level measurements were made in the wells at least one week following development of the new wells to allow full recovery. Measurements were made with an electric tape which was cleaned between wells with a detergent-acetone-water bath followed by a fresh-water rinse. The elevations of the ground level and top-of-casing of each new well were surveyed relative to the USGS datum which was brought on site in the preliminary investigation. These and the static water level data were combined to determine ground-water elevations as presented in Appendix B.

The final step in the field work was to sample the monitor wells and Blakely Drain upstream and downstream of the site. Sampling locations are shown in Exhibit B. The wells were sampled with the Keck SP-81 submersible ground-water sampling pump which was decontaminated between wells. The inside of the pump and hose were cleaned by pumping a near-boiling, detergent-acetone-water solution through the pump followed by clean water rinse. The outside of the hose and pump were steam cleaned using city water.

A minimum of three casing volumes was evacuated from each well prior to sampling. Samples were taken from the drains by dipping the sample bottles.

All samples were placed in bottles furnished by Chem-Met; the bottles were put on ice and relinquished to the custody of Chem-Met personnel for transport to the analytical laboratory.

Laboratory Work

The laboratory portion of this investigation consisted of two parts. The first was the analyses of the ground- and surface-water samples by Canton Analytical Laboratories of Ypsilanti, Michigan for parameters selected by Chem-Met. These parameters and the results obtained are presented in Appendix E.

The second part was permeability (hydraulic conductivity) testing by KCS personnel of the split-spoon liner samples of clay obtained in the field. This testing was performed on the relatively undisturbed samples still in the liners as outlined in Appendix F. Three representative samples from each boring were selected for testing; the results obtained are presented in Appendix D.

RESULTS AND ANALYSIS

Soils

As shown on the geologist's logs, the entire glacial drift sequence beneath the site is composed of primarily clay soils with minor and slightly variable amounts of silt, sand and gravel in some intervals. Angular gravel appears to be limited to the clays immediately overlying the limestone bedrock. As indicated in the preliminary report, this area has been mapped as underlain by lacustrine clays. The presence of angular gravel suggests that a horizon of glacial till occurs between the bedrock and the glacial lake deposits.

The gamma-ray logs furnish substantial verification of the geologist's logs with fairly uniform and high gamma radiation readings through the entire thickness of clays. Exceptions to this are a thin zone of lower values at about 60 feet below ground level (bgl) in KMW-3 and thicker zones of higher values just above bedrock in KMW-1 and KMW-3. These variations probably reflect either different gravel contents or clay compositions.

The results of the permeability testing reveal fairly uniform conditions with values ranging from 4.0×10^{-7} cm/sec to 4.5×10^{-8} cm/sec. These values are on the order of those specified for compacted clay liners and caps for hazardous waste facilities.

There appears to be little correlation of permeability versus depth. The only pattern seen in the data is that the samples from KMW-1 exhibit the highest permeabilities while those from KWM-2 show the lowest values.

Aquifer Conditions

Comparison of static water level data with the geologist's logs reveals that the water in the bedrock occurs under confined conditions. Exhibit C indicates that the direction of ground-water flow in the bedrock is slightly north of east. The gradient of the potentiometric surface is:

$$\frac{4 \text{ FT}}{970 \text{ FT}} = 0.0041 \text{ ft/ft}$$

Calculation of the rate of ground-water flow requires values for this gradient and the hydraulic conductivity and specific yield of the limestone. Measurements of the last two have not been made but can be estimated from published values for similar lithologies. In the absence of karst conditions, hydraulic conductivities in carbonate rocks typically range from 0.01 to 1.0 gallons per day per square foot (gpd/ft²). Specific yields in such carbonates can range from less than one percent for unfractured rock to perhaps ten percent for highly fractured carbonates.

The formula for ground-water flow rate is:

$$V = \frac{Ki}{7.48 Sy}$$

where: V = velocity of flow, ft/day

K = hydraulic conductivity, gpd/ft²

i = gradient, ft/ft

Sy = specific yield, %

7.48 = conversion factor, gal/ft³

There is generally a positive correlation between specific yield and hydraulic conductivity, i.e. they will tend to increase or decrease together. As the above formula indicates, they will act to cancel each other's effects in terms of ground-water velocity. The range in flow rates based on these assumptions is, then:

$$V_{MIN} = \frac{(0.01 \text{ gpd/ft}^2) (0.0041 \text{ ft/ft})}{(7.48 \text{ gal/ft}^3) (0.01)}$$

$$V_{MIN} = 0.00055 \text{ ft/day} = 0.20 \text{ ft/year}$$

$$V_{MAX} = \frac{(1.0) (0.0041)}{(7.48) (0.10)}$$

$$V_{MAX} = 0.0055 \text{ ft/day} = 2.0 \text{ ft/year}$$

Water Quality

The results of the water quality analyses are presented in Appendix E. They reveal that the water contained in the bedrock is highly mineralized with high levels of total

dissolved solids (T.D.S.), chloride and sulfate. The surface-water analyses reveal an increase in T.D.S. and chlorides between the upstream and downstream samples.

CONCLUSIONS

The data obtained in this investigation lead to the following conclusions:

1. That the study site is underlain by 65 to 75 feet of low permeability glacial clay.
2. That these clays are immediately underlain by limestone or dolomite bedrock containing highly mineralized water.
3. That the water in the bedrock occurs under confined conditions with flow to the east-northeast at a rate estimated from 0.2 to 2.0 ft/year.

Should questions or comments arise, please feel free to contact our office.

Respectfully submitted,

KECK CONSULTING SERVICES, INC.



Joseph W. Sheahan
Hydrogeologist/Project Manager

Appendix A

Geologist's Logs

KECK CONSULTING SERVICES, INC.

"Ground Water Specialists"

1099 Grand River

Williamston, Michigan 48895

(517) 655-4391

SOIL BORING DATA

JOE NUMBER 1076 DATE June 1 - 4, 1982

OWNER Chem-Met Services

LOCATION: State Michigan County Wayne Twp. Brownstown
Section 3 T. 4 ~~N.~~ S.; R. 10 E.W.

MINERAL WELL PERMIT NUMBER: 1355-822-482

AUGER: 4-inch ☐ 6-inch ☒ Profile ☐ Split-Spoon ☐

PLUGGING METHOD
☐ Natural Materials
☒ Bentonite
☒ Cement

Geologist P. Lynch Field Ass't A. Thulin

BORING NUMBER TOTAL DEPTH S.W.L. (BGL)

Sample Number	From <u> </u> to <u> </u> Feet	Lithologic Description

Piezometer: ☐ Screen Pipe Total Depth (BGL)

BORING NUMBER KMW-1 TOTAL DEPTH 77.5 S.W.L. (BGL) 50.45' bgl

Sample Number	From <u>0</u> to <u>77.5</u> Feet	Lithologic Description
	0 - 0.5	CRUSHED CLINKERS; (disturbed) no sample taken
1	0.5 - 5.5	CLAY; (strong organic smell), slightly silty, orange-brown, very cohesive, slightly moist
2	5.5 - 16	CLAY; slightly silty, lt. blue-gray, dry, somewhat cohesive
3	16 - 42	CLAY; lt. blue-gray, very cohesive, moist, cobbles @ 42'
4	42 - 65	CLAY; w/fine-med. angular gravel, very cohesive, lt. blue-gray, easier drilling 63-65'
5	65 - 77.5	LIMESTONE

Piezometer: ☐ Screen 930 #7 Pipe 76.47' Total Depth (BGL) 77.3'BORING NUMBER KMW-1 con't. TOTAL DEPTH _____ S.W.L. (BGL) _____

Sample Number	From _____ to _____ Feet	Lithologic Description
		Split Spoon Samples
1	10 - 12	no split spoon sample (2 attempts)
2	15 - 16	2 samples
3	20 - 21	2 samples
4	29 - 31.5	3 samples
5	39 - 41.5	3 samples

Piezometer: ☐ Screen _____ Pipe _____ Total Depth (BGL) _____

BORING NUMBER KMW-2 TOTAL DEPTH 74.7' S.W.L.(BGL) 32.95' bgl

Sample Number	From <u>0</u> to <u>74.7</u> Feet	Lithologic Description
1	0 - 0.5	CLAY; (lime rich), very lt. gray, moist, cohesive (disturbed)
2	0.5 - 5	SAME AS ABOVE; except saturated, disturbed
3	6 - 16	CLAY; slightly silty and sandy, slightly moist, cohesive
4	16 - 41	CLAY; very slightly silty, cohesive, dry, dk. blue-gray
5	41 - 65	CLAY; slightly silty, slightly moist, dk. blue-gray, (cobble encountered @ 42') (angular gravel 50-65' within clay of sample #5)
6	65 - 74.7	LIMESTONE

Piezometer: ☐ Screen 930 #6 Pipe 75.56' Total Depth (BGL) 74.69'

BORING NUMBER KMW-2 con't. TOTAL DEPTH S.W.L.(BGL)

Sample Number	From <u> </u> to <u> </u> Feet	Lithologic Description
		Split Spoon Samples
1	10 - 12	no sample
2	15 - 16	2 samples
3	20 - 21	2 samples
4	30 - 31	2 samples
5	40 - 41	2 samples
6	50 - 51	2 samples - silt in one sample tube

Piezometer: ☐ Screen Pipe Total Depth (BGL)

BORING NUMBER KMW-3 TOTAL DEPTH 79.8' S.W.L.(BGL) 38.74' bgl

Sample Number	From <u>0</u> to <u>79.8</u> Feet	Lithologic Description
1	0 - 4	CLAY; slightly silty, gray-brown, cohesive, moist
2	4 - 7	CLAY; slightly silty, blue-gray, moist, cohesive
3	7 - 45	CLAY; blue-gray, zones slightly silty, very cohesive, moist
4	45 - 76	CLAY; dk. blue-gray, very moist, zones w/fine-med. angular gravel, very cohesive, moist
5	76 - 79.8	BEDROCK; limestone

Piezometer: ☐ Screen 930 #7 SS Pipe 80' Total Depth (BGL) 79.73'

BORING NUMBER KMW-3 con't. TOTAL DEPTH _____ S.W.L.(BGL) _____

Sample Number	From _____ to _____ Feet	Lithologic Description
		Split Spoon Samples
1	10 - 11	2 samples (tubes)
2	20 - 21	2 samples
3	30 - 31	2 samples
4	40 - 40.5	1 sample
5	50 - 50.5	1 sample

Piezometer: ☐ Screen _____ Pipe _____ Total Depth (BGL) _____

Appendix B
Elevation Data

DATE June 17, 1982PROJECT Chem-Met Services

WELL #	GROUND ELEVATION	CASING HEIGHT	CASING ELEVATION	DEPTH TO WATER	WATER-TABLE ELEVATION
KMW-1	603.04	2.17	605.21	35.19	570.02
KMW-2	602.30	3.87	606.17	35.38	570.79
KMW-3	605.73	3.27	609.00	34.54	574.46
P-4	603.96	2.49	606.45	12.51	593.94
	Elevations relative to USGS datum.				

Appendix D

Results of Hydraulic Conductivity Testing

Chem Met Services
Table of Hydraulic Conductivity

<u>Boring Interval</u>	<u>Hydraulic Conductivity cm/sec</u>
<u>KMW #1</u> 15.5 - 16.1'	2.6×10^{-7}
<u>KMW #1</u> 29.5 - 30.0'	4.0×10^{-7}
<u>KMW #1</u> 50.5 - 51.0'	1.3×10^{-7}
<u>KMW #2</u> 20.5 - 21.0'	4.6×10^{-8}
<u>KMW #2</u> 30.5 - 31.0'	4.6×10^{-8}
<u>KMW #2</u> 40.5 - 41.0'	4.5×10^{-8}
<u>KMW #3</u> 10.5 - 11.0'	7.5×10^{-8}
<u>KMW #3</u> 30.0 - 30.5'	1.4×10^{-7}
<u>KMW #3</u> 50.0 - 50.5'	6.3×10^{-8}

Appendix E
Water Quality Data

CAL

Received

JUL 21 1982

Keck

CANTON ANALYTICAL LABORATORY 153 Elder Street Ypsilanti, MI 48197 Phone 313/483-7430

July 13, 1982

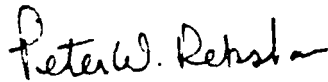
Mr. William Hartman
CHEM MET SLRVICES
P.O. Box 2169
Wyandotte, Michigan 48192

Dear Mr. Hartman:

Enclosed are the results from the June 18, 1982 Sampling of Chem-Met monitoring wells.

If you have any questions, please do not hesitate to call.

Yours very truly,



Peter W. Rekshan
Laboratory Director

ENVIRONMENTAL ANALYSIS

CHEM MET SERVICES

Sample Description: RCRA Monitoring Wells at Chem Met Site

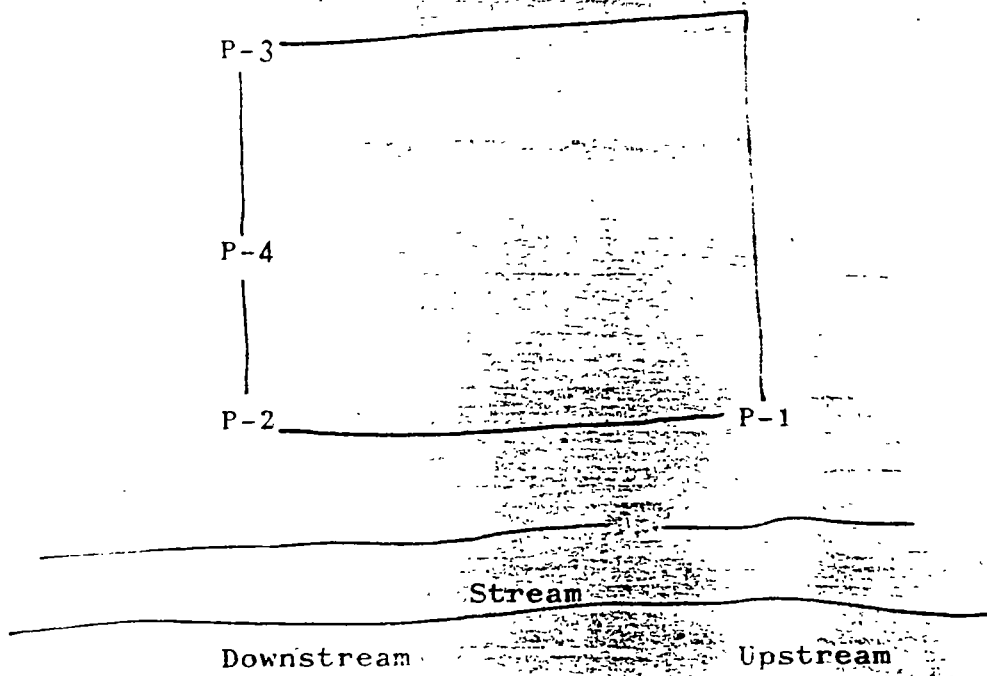
Date Collected: June 18, 1982

Date Received: June 18, 1982

Parameters	KMW-1	KMW-2	KMW-3	Blakely Drain	
	P-1	P-2	P-3	P-4	Upstream Downstream
Arsenic	<0.05	<0.05	<0.05	<0.05	- -
Barium	<0.1	<0.1	<0.1	<0.1	- -
Cadmium	<0.01	<0.01	<0.01	<0.01	- -
Chromium, total	<0.05	<0.05	<0.05	<0.05	<0.05 <0.05
Chromium, hexavalent	<0.05	<0.05	<0.05	<0.05	<0.05 <0.05
Lead	<0.05	<0.05	<0.05	<0.05	<0.05 <0.05
Mercury	<0.002	<0.002	<0.002	<0.002	- -
Copper	<0.05	<0.05	<0.05	<0.05	- -
Zinc	<0.05	<0.05	<0.05	<0.05	- -
Cyanide, oxidizable	<0.05	<0.05	<0.05	<0.05	- -
Cyanide, total	<0.05	<0.05	<0.05	<0.05	- -
Chloride	550	800	400	500	350 1150
Sulfate	1280	1200	1140	800	- -
Sodium	140	140	150	76	- -
Bicarbonate Alkalinity, as CaCO ₃	220	240	200	550	- -
Carbonate Alkalinity, as CaCO ₃	<2.0	<2.0	<2.0	<2.0	- -
pH, S.U.	6.7	7.2	6.9	6.7	7.5 7.6
Specific Conductance, umhos/cm	3000	3000	3000	2500	- -
Total Organic Carbon	4.0	1.0	7.0	5.0	- -
Total Organic Halide	0.022	0.020	<0.005	0.011	0.76 0.13
Total Oxygen Demand	37	21	37	16	15 16
Total Dissolved Solids	4230	4460	4400	3660	720 1560
Methylene Chloride	<0.01	<0.01	<0.01	<0.01	- -
Carbon Tetrachloride	<0.05	<0.05	<0.05	<0.05	- -
Trichloroethylene	<0.01	<0.01	<0.01	<0.01	- -
1,1,1-Trichloroethane	<0.01	<0.01	<0.01	<0.01	- -
o-dichlorobenzene	<0.01	<0.01	<0.01	<0.01	- -
Toluene	<0.01	<0.01	<0.01	<0.01	- -
Methyl Ethyl Ketone	<0.01	<0.01	<0.01	<0.01	- -
Carbon Disulfide	<0.01	<0.01	<0.01	<0.01	- -
iso-Butylalcohol	<0.01	<0.01	<0.01	<0.01	- -
Tetrachloroethylene	<0.01	<0.01	<0.01	<0.01	- -
Pyridine	<0.01	<0.01	<0.01	<0.01	- -

All results are expressed in mg/l except noted.

CHEM-MET WELLS



Appendix F

Methodology for Hydraulic Conductivity Testing

LABORATORY FALLING HEAD PERMEABILITY TEST

Introduction

The falling head permeability test is generally used to test less permeable soils (fine sand to fat clay) with k values less than 10^{-3} cm/sec. The test can be performed on either relatively undisturbed or remolded samples.

Sample Preparation

Relatively undisturbed samples can be collected in a split spoon sample with or without a liner tube. If the sample is in a liner tube, the sample length and diameter must be measured and the tube ends fitted with inflow and outflow tubes. Split spoon samples collected without a liner tube can be prepared by measuring the sample length and diameter, outfitting the sample with inflow and outflow tubes and placing this arrangement in heat shrinkable tubing.

Disturbed samples, e.g. auger cuttings, must be remolded to be tested. This can be accomplished by packing the sample at its natural moisture content into a mold according to the Modified Proctor Method (ASTM D1557). A remolded sample gives results which at best are an approximation of the natural condition. Packing by the Modified Proctor Method gives consistency to the test but it can not restore the sample to its natural state.

The remolded specimens are then placed in permeameters which consist of standard compaction molds, mounting bases with porous stones and brass pipe fittings, heads with air escape valves and fittings.

The permeameters liner tuves, or other samples are connected to standpipes filled with water. Periodic measurements of the fall of the water (or head) in the standpipes are taken at different time intervals. With this information it is possible to calculate the permeability.

Where:
$$K = \frac{d_t^2 L}{d_i^2 t} \cdot \frac{\ln \frac{h_o}{h_t}}$$

K = Permeability (cm/sec)

d_t = Inside diameter of standpipe (cm)

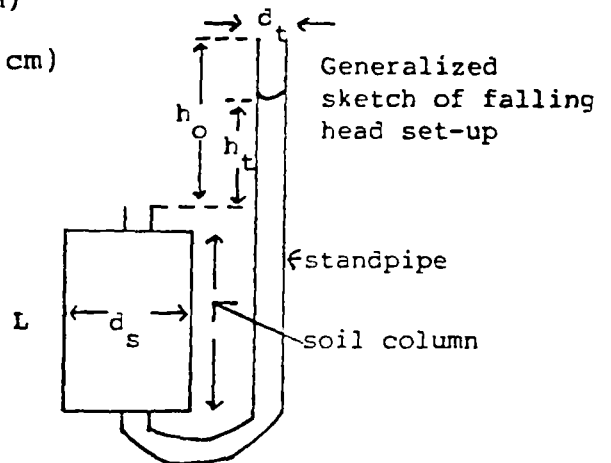
d_i = Inside diameter of soil column (cm)

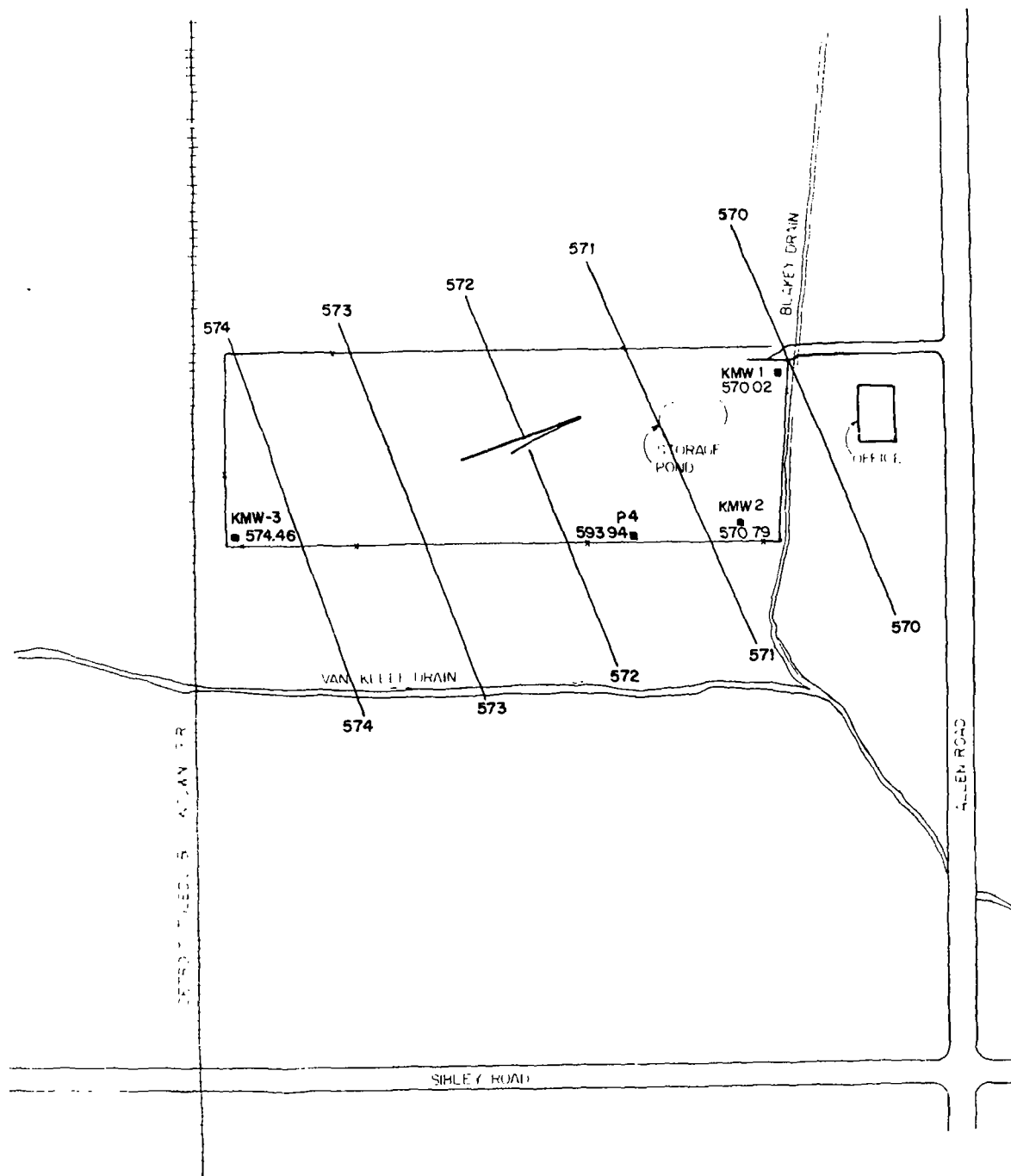
L = Length of soil column (cm)

h_o = Initial head

h_t = Head at time

t = Time (in seconds)

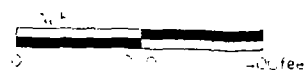


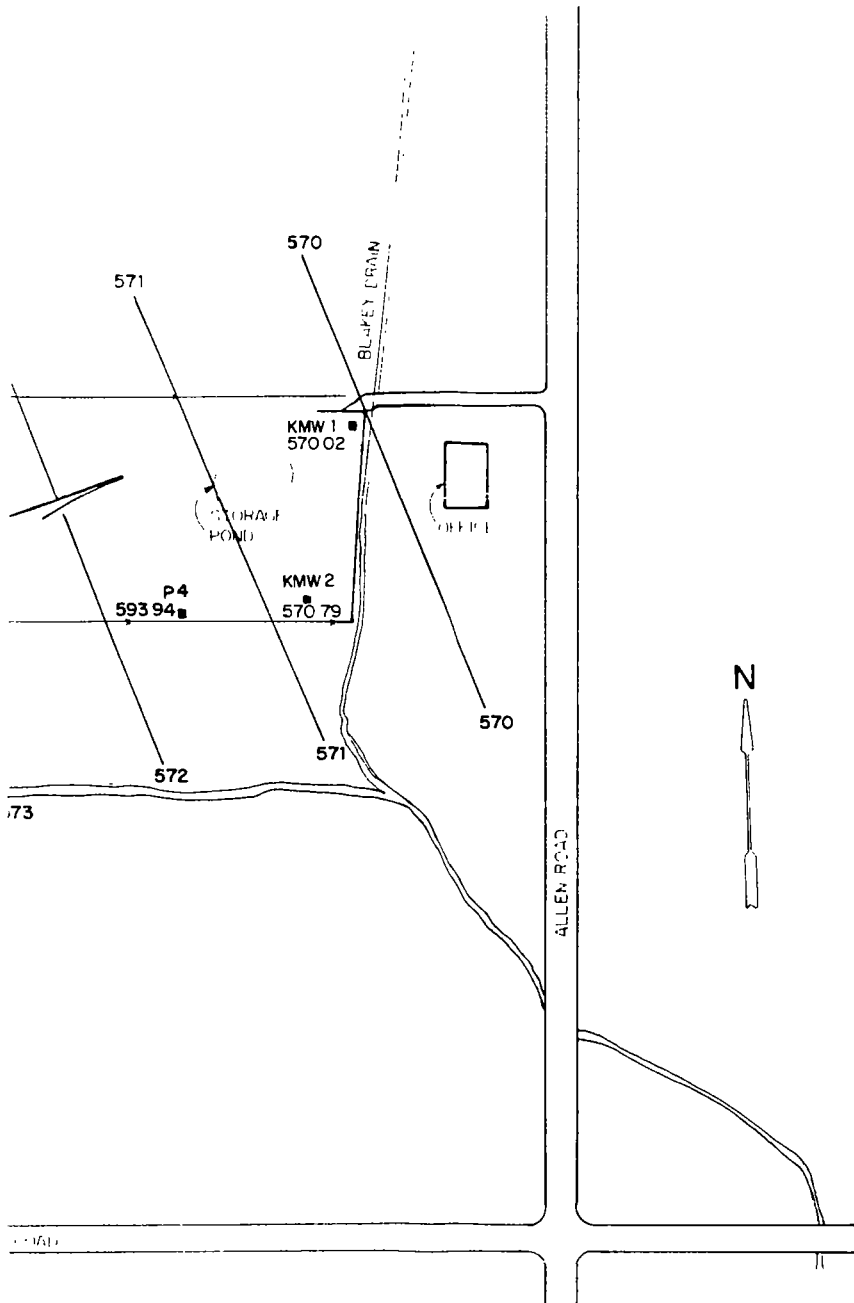


LEGEND

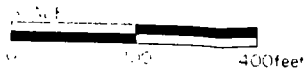
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- 570 — CONTOUR OF EQUAL HYDRAULIC POTENTIAL
- — — DIRECTION OF GROUND-WATER FLOW

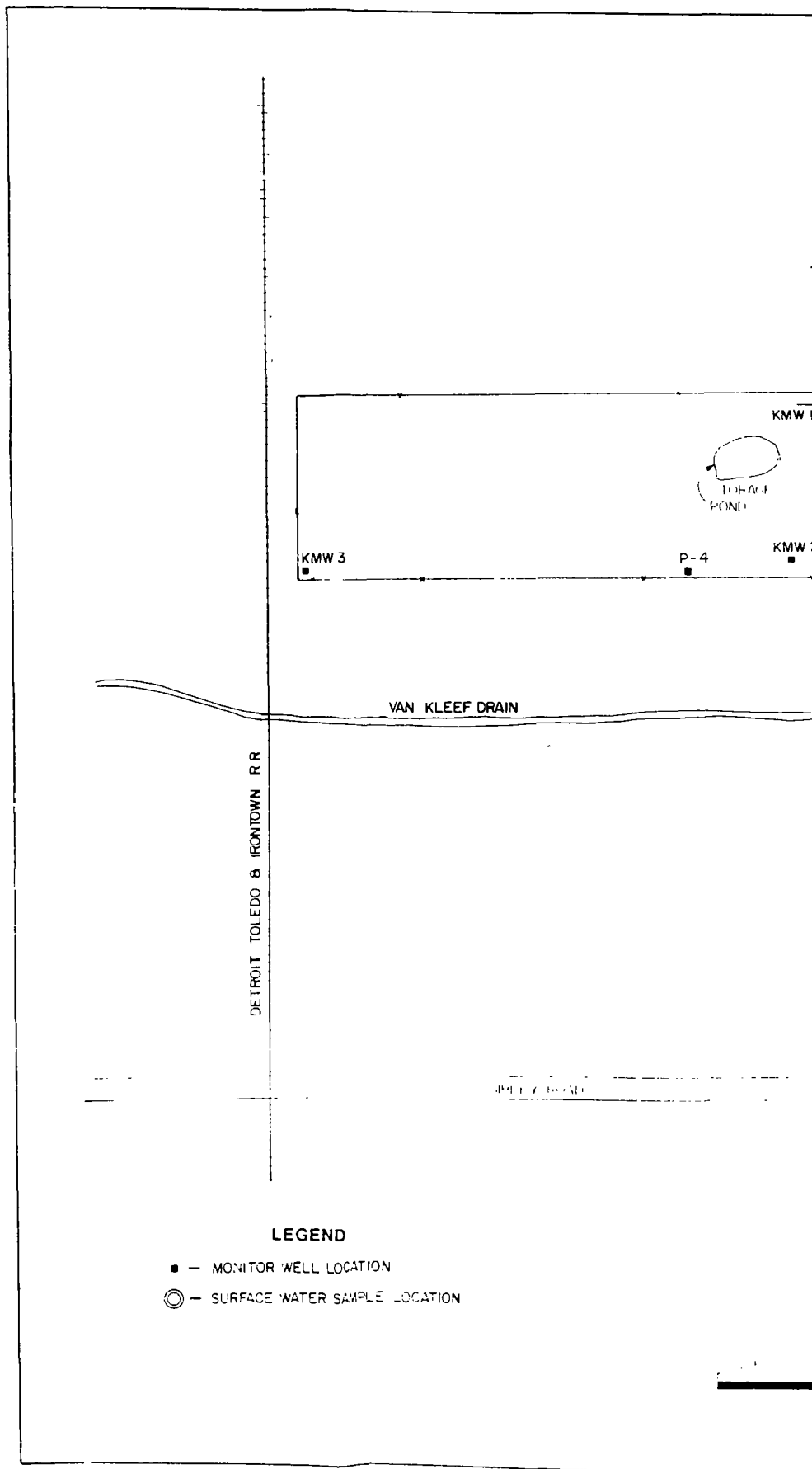
POTENTIAL
CONTOUR
CHEM-MET
145, RICE
BROWNSTOW
WAYNE COUN

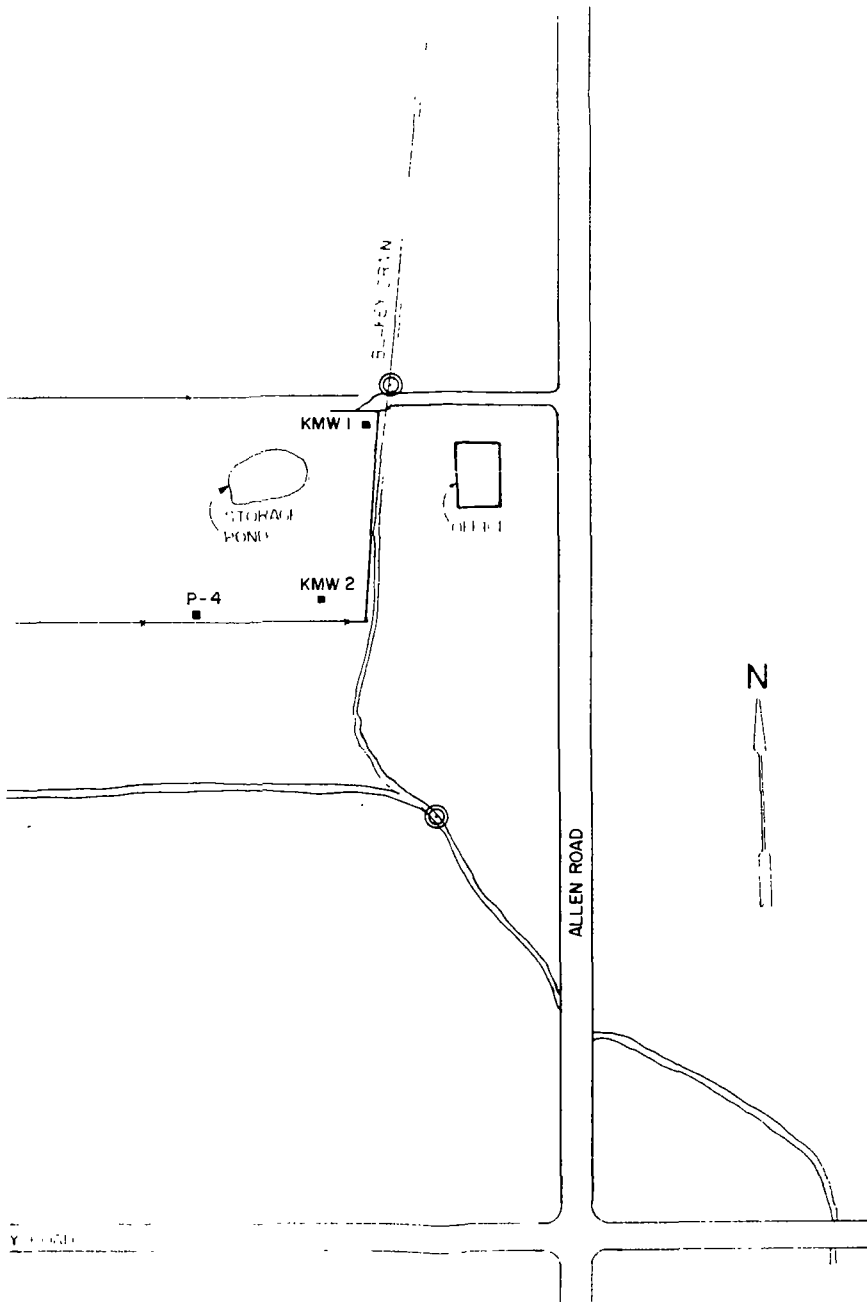




POTENTIOMETRIC SURFACE
 CONTOUR MAP 6/17/82
 CHEM-MET SERVICES
 T 4 S, R 10 E, SECTION 3,
 BROWNSTOWN TOWNSHIP,
 WAYNE COUNTY, MICHIGAN





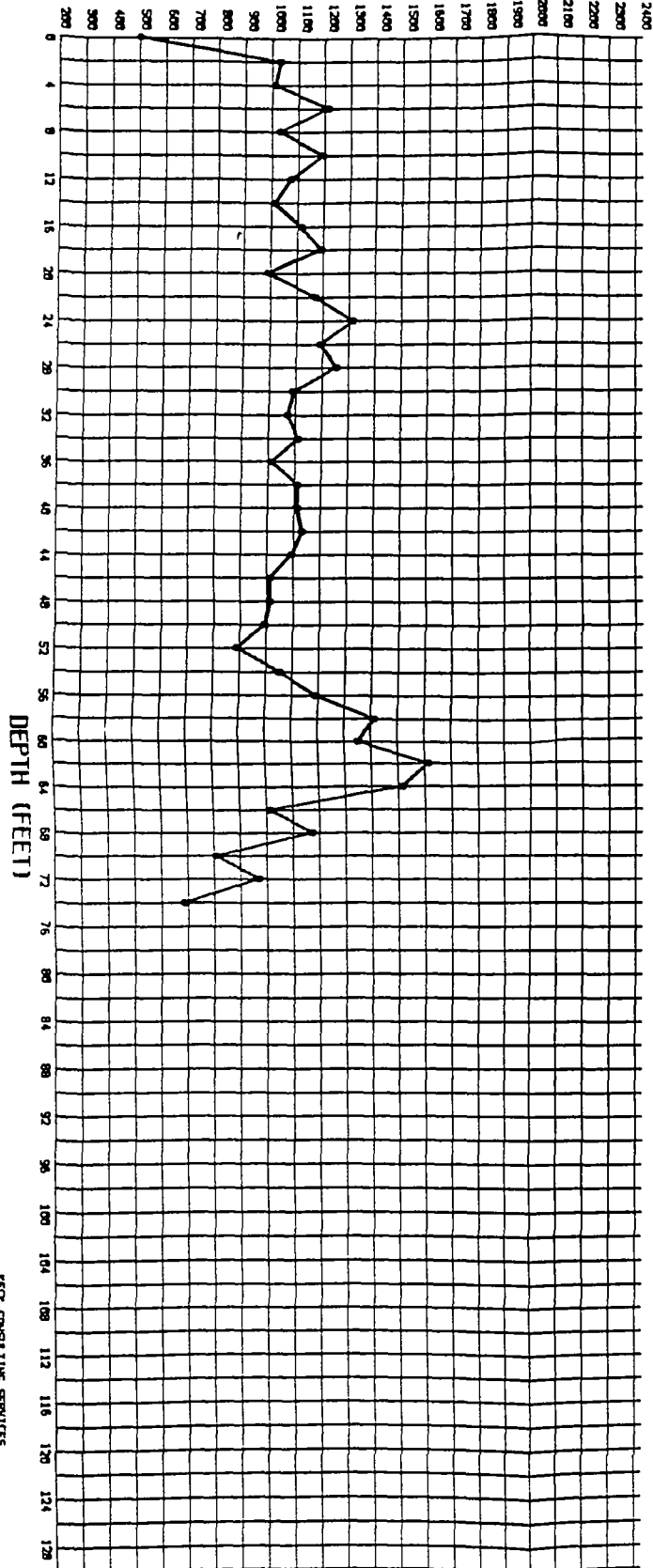


GROUND & SURFACE WATER
MONITOR STATION LOCATIONS
CHEM-MET SERVICES

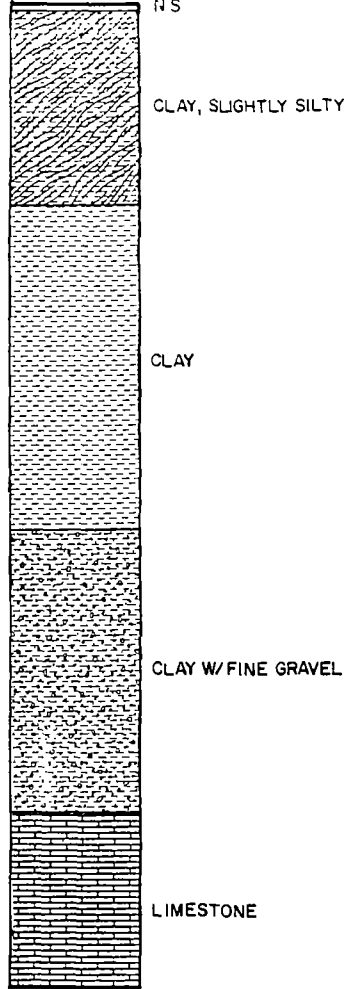
1. KMW 1
2. KMW 2
3. P-4
4. OFFICE
5. STORAGE POND

WELL NO. KM-1
GAMMA RAY INTENSITY
COUNTS PER MINUTE

GAMMA RAY LOG
OWNER / CHEM MET
DATE / 6-17-82
PROBE TYPE / SCINT.

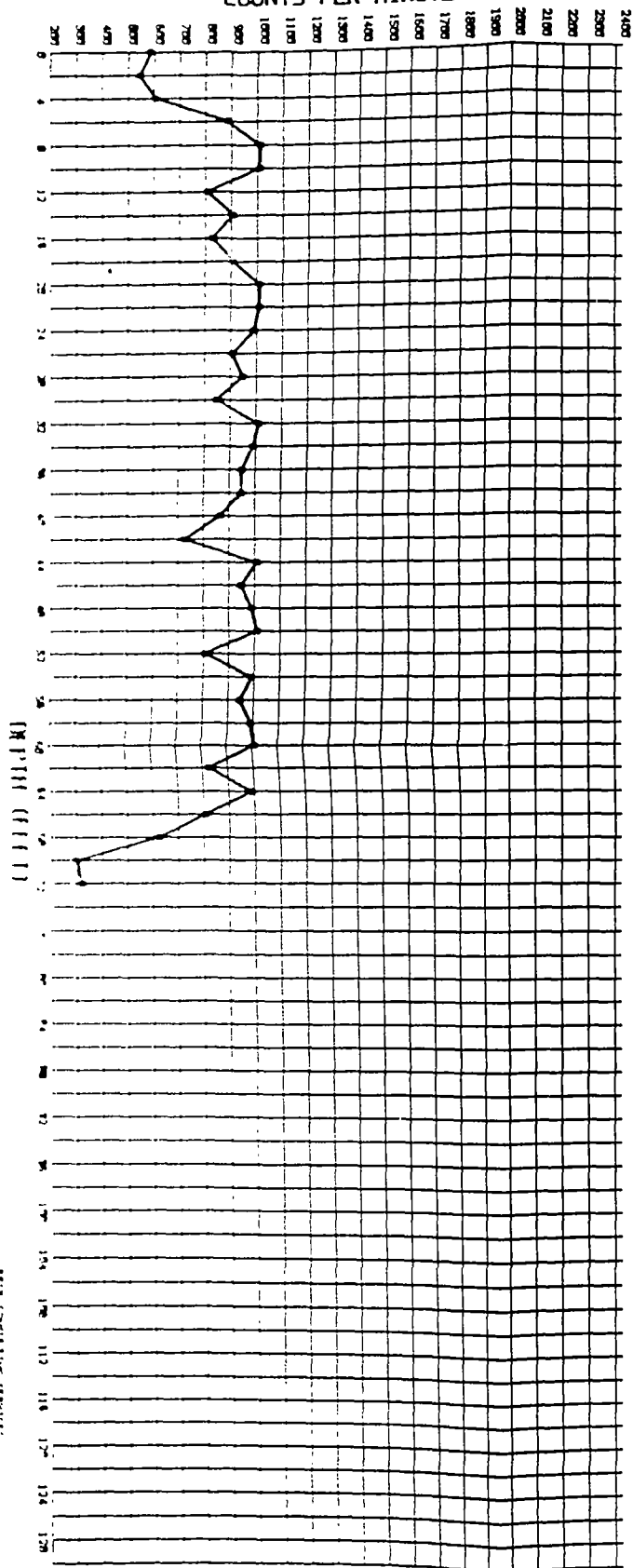


DRILLERS LOG

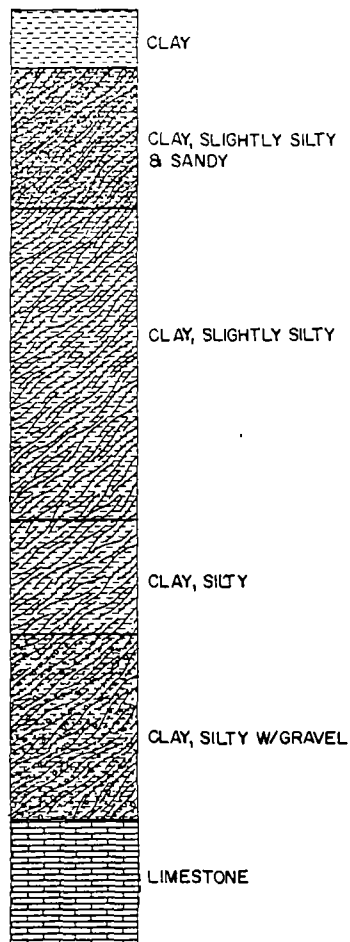


WELL NO. KMH-2
 GAMMA RAY INTENSITY
 COUNTS PER MINUTE

GAMMA RAY LOG
 OWNER / CHEM MET
 DATE / 6-17-82
 PROBE TYPE / SCINT.

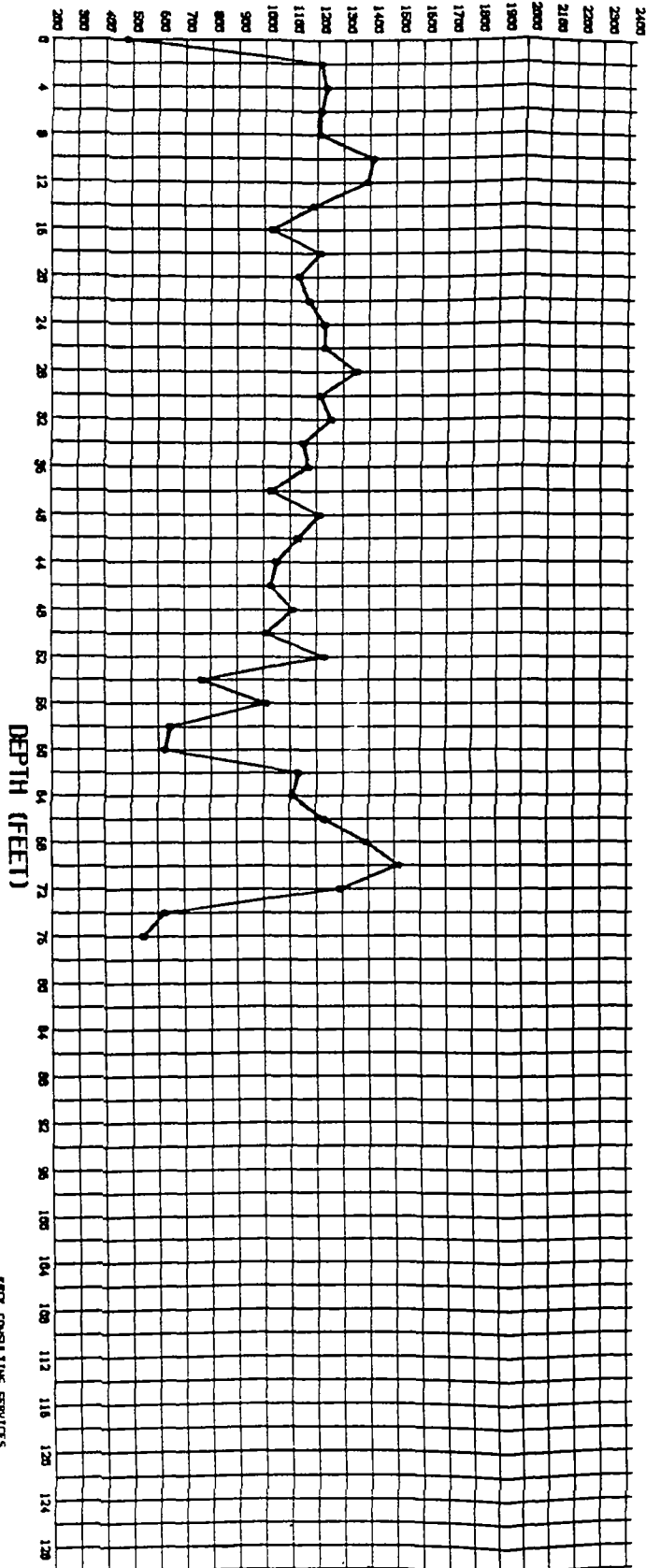


DRILLERS LOG

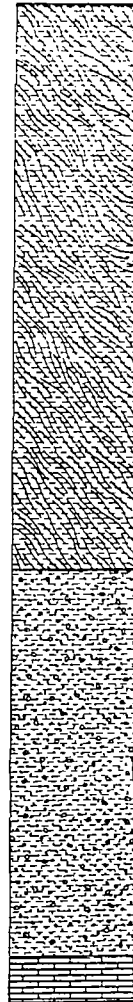


WELL NO. KMH-3
GAMMA RAY INTENSITY
COUNTS PER MINUTE

GAMMA RAY LOG
OWNER / CHEM MET
DATE / 6-17-82
PROBE TYPE / SCINT.



DRILLERS LOG

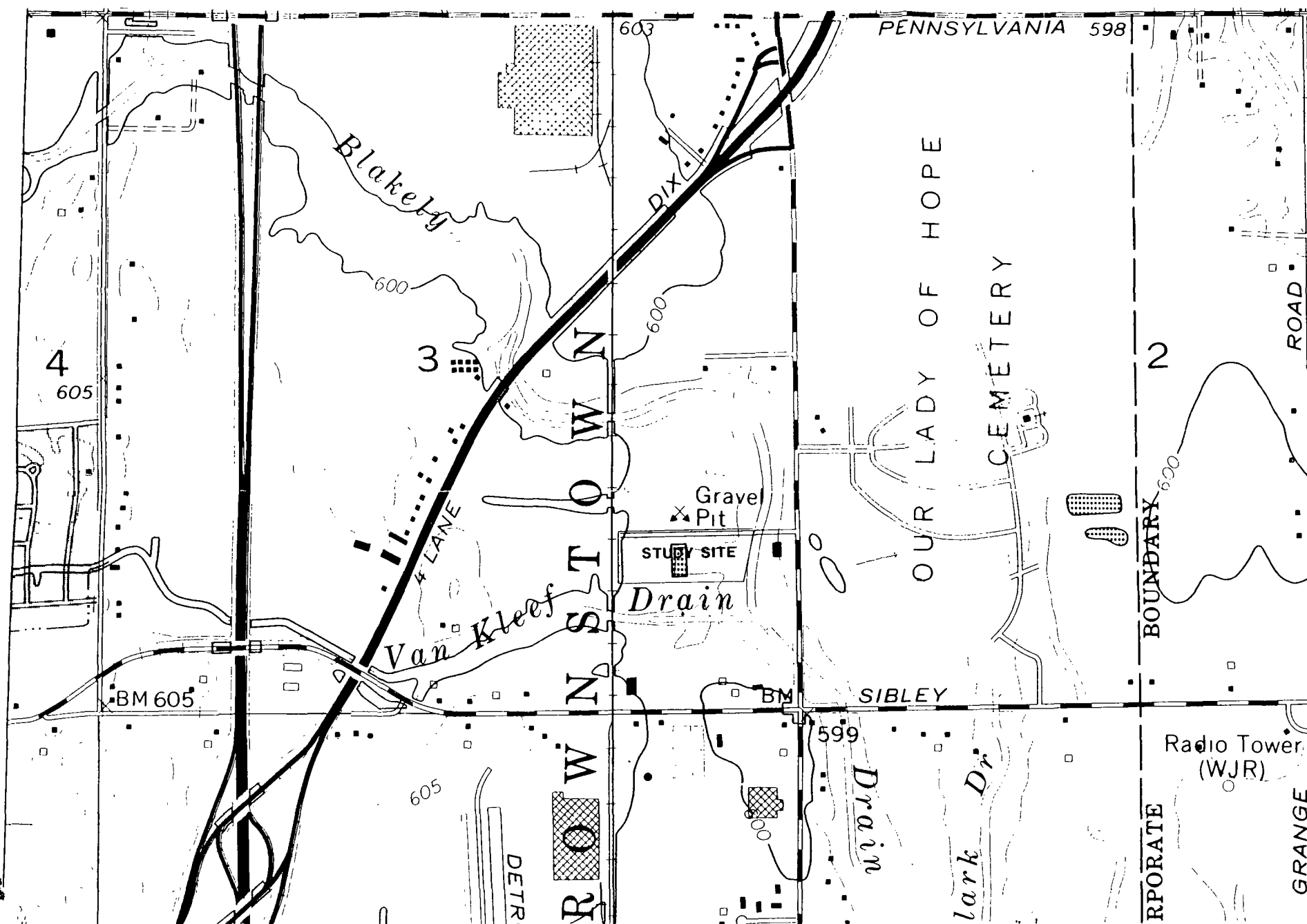


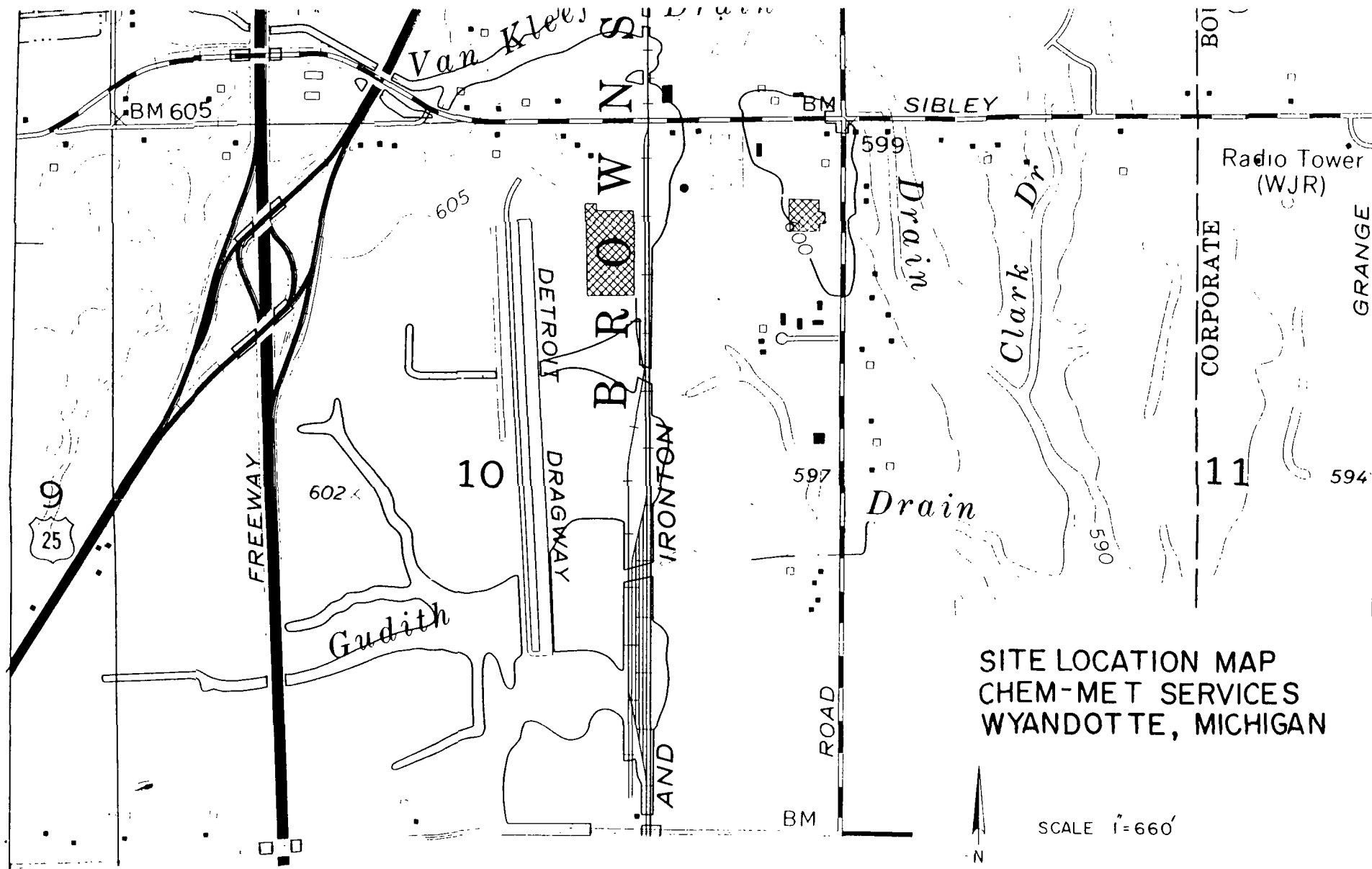
CLAY, SLIGHTLY SILTY

CLAY W/FINE GRAVEL

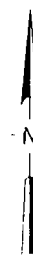
LIMESTONE

EXHIBIT A





SITE LOCATION MAP CHEM-MET SERVICES WYANDOTTE, MICHIGAN



SCALE 1"=660'

U.S. TOPOGRAPHIC MAP SERIES
WYANDOTTE QUADRANGLE - 7.5 SERIES 1973
CONTOUR INTERVAL - 5'

WELL LOGS ON FILE (REC'D 4-86)

Chevrolet Livonia Plant

ROS 8509 07

T1S R8E sec. 5 13, 14, 22, 23, 24, 25, 26, 27, 34, 35, 36

T1S R9E 17, 18, 19, 20, 21, 28, 29, 30, 31, 32, 33

T2S R8E 1, 2, 3, 11, 12

T2S R9E 4, 5, 6, 7, 8

K & J Landfill

ROS 8509 07

T2S R8E 13, 14, 15, 27, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, 36

T2S R9E 19, 29, 30, 31, 32

T3S R8E 1, 2, 3, 4, 9, 10, 11, 12, 13, 14

T3S R9E 5, 6, 7

Nelson Industrial Services

ROS 8601-17

T1S R10E 13, 14, 23, 24, 25, 26, 35, 36

T1S R11E 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34

T2S R10E 1

T2S R11E 4, 5, 6, 7 *oil & gas logs on file @ E&E*

Interrate Lyndon - L.C.

ROS 8601-17

T1S R11E 4, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35

Plating Equipment Used, Inc.

ROS 8601-17

T1S R11E 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20,

21, 22, 23, 26, 27, 28, 29, 30

T1S R10E 1, 12, 13, 24..

T1N R11E

Pennsill Landfill

ROS 8512-08

T3S R10E 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30,
31, 32, 33, 34, 35, 36,
T4S R10E 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 15

Thornton Landfill

ROS 8509-07

T3S R9E sec. 36

T3S R10E 21, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
T4S R9E 1, 12
T4S R10E 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17,
18, 20, 21, 22.

Chem-met Services, chnc.

ROS 8509-07

T3S R10E 25, 26, 27, 28, 32, 33, 34, 35, 36
T3S R11E 31
T4S R10E 1, 2, 3, 4, 5, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17,
21, 22, 23, 24
T4S R11E 6, 7, 18

Vulcan Mold and Iron Co.

ROS 8601-17

T3S R10E 35, 36
T3S R11E 31, 32
T4S R10E 1, 2, 3, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25
T4S R11E 4, 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 21, 29, 30

Huron Quarry Sanitary Landfill

ROS 8509-07

T4S R9E 22, 23, 24, 25, 26, 27, 34, 35, 36
T4S R10E 19, 20, 28, 29, 30, 31, 32, 33
T5S R9E 1, 2, 3, 10, 11, 12, 13
T5S R10E 4, 5, 6, 7, 8, 18

RCRA Status Search

~~Carol Witt~~ -

~~6146~~

~~Rich Traube~~ -

~~6138~~

~~George Hamper~~ -

~~6143~~

Mary Villarea (- (312) 886-7439



Part A → SI → scored on waste not covered

Part B → do SI - NO HRS

69717983004800

part B

Chem-Met Services
- W:

MID096963194

Nelson Industrial Services

MID089011992

Inmont Corp. → nothing

MID270013642

Plating Equipment/used, Inc. → nothing

MID088334537

Vulcan Inc. → nothing

MID005392832

G
E
N

T
R
S

T
S
D

Celanese Plastics &
Specialties Co.

→ nothing - nonhandler of haz waste
MID077883767

part B - in house → do SI, no HRS
- filed → " "

part A → find out what compounds are on
permit & what areas permit covers
(store, disp.) If a waste is
not on permit can use it to
score site.

maps, analysis, → most recent

Phone Log

Mary Villareal
USEPA Region 5
(312) 886-7439
April 2, 1986

Mary supplied information concerning the RCRA status of two sites in Wayne County, Michigan. Chem-Met services submitted a RCRA part B application on August 10, 1983. ~~and this has~~ Nelson Industrial Services, Inc. submitted a RCRA part B permit on August 26, 1982.

Paul Andersen
4/2/86

Chem-Met Services Inc.

RCRA Part A 11.7.80

Generator

Transporter

Treatment Storage & Disposal

Wayne Co Health Dept.	1	Pennfill Landfill	Wayne	410618 8512-8
	2	Vulcan Mold and Iron Co.	"	410642 8601-17
	3	Huron Quarry Sanitary L.F.	"	410559 8509-7
	4	Thornton Landfill	"	410012 8509-7
	5	K and J Landfill	"	410562 8509-7
EPA	6	Michigan Environmental Services Company	Wayne	410593 8510-15
MDNR Northville	7	Chevrolet Livonia Plant	Wayne	410556 8509-07
	8	Chem-met Services Inc.	Wayne	410575 8509-02
	9	Plating Equipment Wash, Inc.	Wayne	410639 8601-17
	10	Nelson Industrial Services	Wayne	410668 8601-17
	11	Celanese Plastics and Specialty Company (presently Inmont Corp.)	Wayne	410599 8510-15
	12	Intervale Lyndon - L.C.	Wayne	410635 8601-17

Regional \approx District
Files searched.

07.86